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EXAMINER

HA, NGUYEN Q

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/940,190	Applicant(s) MIURA ET AL.	
	Examiner 'Wyn' Q. HA	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,8,11-13,15-20,23-25,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8,11-13,15-20,23-25,27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/14/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 8, 11, 15-20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei (JP 07215551 A) in view of Miyakoshi (JP 05053395 A) and Nishimura et al. (US 5,018,888).

Claims 1, 8 and 17-20:

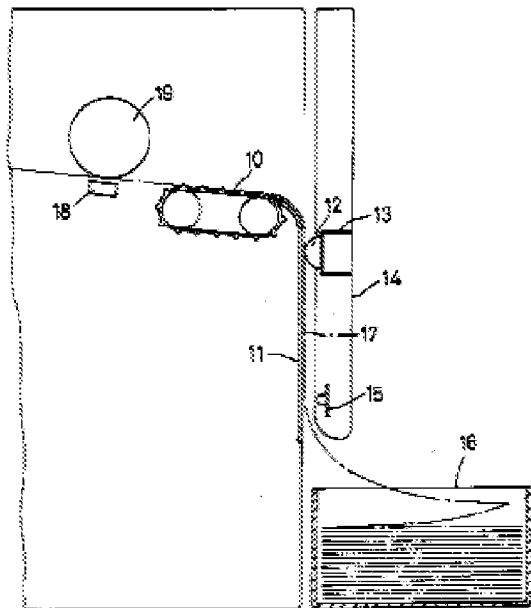
Chinzei, cited in the Office action of 9/29/2008, teaches a continuous paper feeding apparatus for feeding a perforated continuous paper sheet to an image forming device (See figs. 2-7, reproduced below), comprising:

a paper supply device 16 configured to supply the continuous paper sheet 17;

a tractor 10 provided at a location upstream of said image forming device (18, 19) to feed the continuous paper sheet supplied from said paper supply device while engaging perforations of the continuous paper sheet;

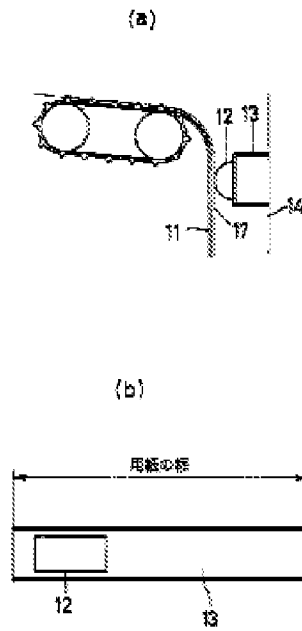
【図2】

第1の実施例に係る連続紙搬送装置の全体構成図。



【図3】

第1の実施例の變形例を示す図。

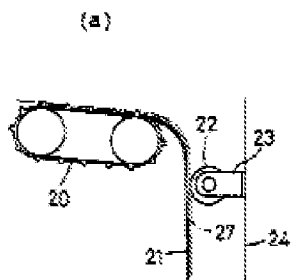


【図7】

第5の実施例に係る連続紙搬送装置の構成図。

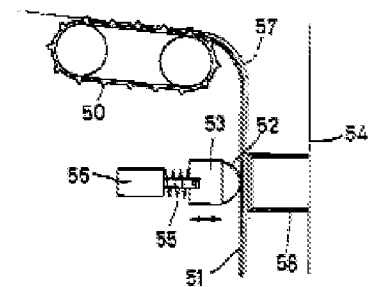
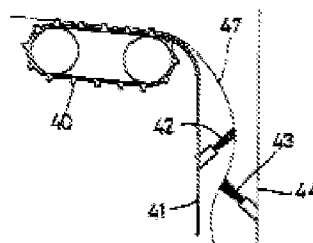
【図4】

第2の実施例に係る連続紙搬送装置の構成図。

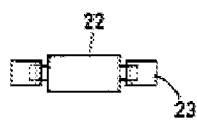


【図6】

第4の実施例に係る連続紙搬送装置の構成図。



(b)



a braking device (Fig. 5, 5th embodiment, comprising a sheet guide 58, a clamper 52 movable against the sheet guide 58 by a activation device/solenoid 56 and a push spring 55) located between said paper supply device 16 and said tractor 10 and configured to apply a braking force to the continuous paper sheet (Paragraphs [0003] – [0007], summarized as follows: “when the carrying force of the feed roller located in the slipstream [downstream] side of the photoconductive drum 19 is too large compared with that of the feed tractor 10, there is a problem that the perforated holes in the paper will be torn, or the paper will separate from the feed tractor...By giving a paper a back load in an opposite direction to the feed direction, such a problem can be solved...the tearing of the holes will not occur and the paper will not separate from the feed tractor”);

a braking force setting device configured to set the braking force (Paragraphs [0015] “By changing the back load... a paper skew is controlled [besides preventing the perforated from being torn or the paper from separating from the feed tractor].” Paragraph [0019] “Regulation which prevents generating of a paper skew can be performed by changing the back load.” Inherently, Chinzei's apparatus must have a braking force setting device configured to regulate/set the back load [braking force]);

a roller provided at a location downstream of said image forming device (18, 19) to feed the continuous paper sheet so that a feeding speed of the roller is slightly higher than that of the tractor (Paragraph [0002] “a photoconductive drum 19 being arranged in the slipstream [downstream] side of the tractor feeder 10, and a feeder roller which pulls the paper being further located in the

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slipstream [downstream] side.” Paragraph [0010] “The paper is pulled and conveyed by the feed roller [not illustrated] located in the slipstream side of the photoconductive drum 19.” Understandably, feeding speed of the feed roller must be slightly higher than that of the tractor 10 in order for the paper being pulled and conveyed by said feed roller), and

a controller to control the braking force applied by the braking device according to the setting made by said braking force setting device (Chinzei's apparatus, as discussed above, regulates the back load to prevents generating of a paper skew and to prevent the perforated from being torn or the paper from separating from the feed tractor. Understandably, Chinzei's apparatus must have at least a sensor to detect an amount of the paper skew and a controller to regulate/set the back load in response to the detected amount of the paper skew).

Chinzei is silent about whether the feed roller (not illustrated) comprises a pair of rollers.

Chinzei is also silent about the braking force setting device configured to variably set the braking force.

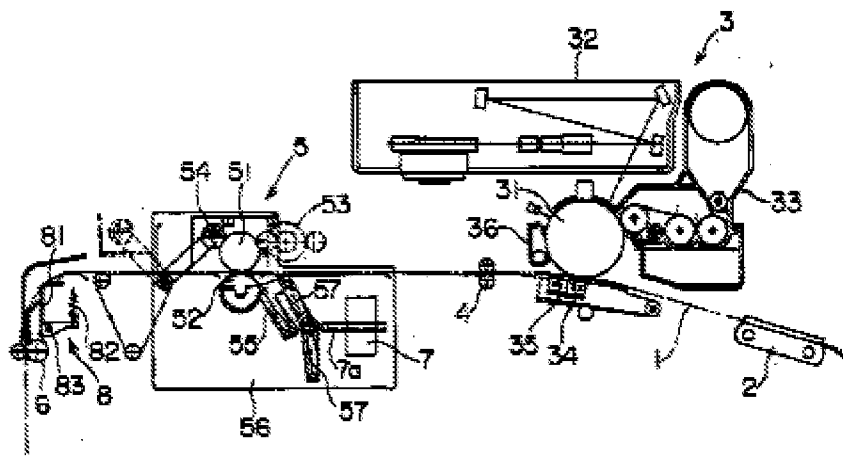
Miyakoshi, similar to Chinzei and as discussed in the Office action of 3/25/2008, teaches a continuous paper feeding apparatus (Fig. 1, reproduced below) for feeding a perforated continuous paper sheet 1 to an image forming device 3. The apparatus includes a pair of rollers 4 which feeds the paper in a

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pulled state between the tractor 2 and the pair of rollers 4 (Abstract).

Understandably, a feeding speed of Miyakoshi's pair of rollers 4 must also be slightly higher than that of the tractor 2 in order to have the paper 1 in the pulled state.

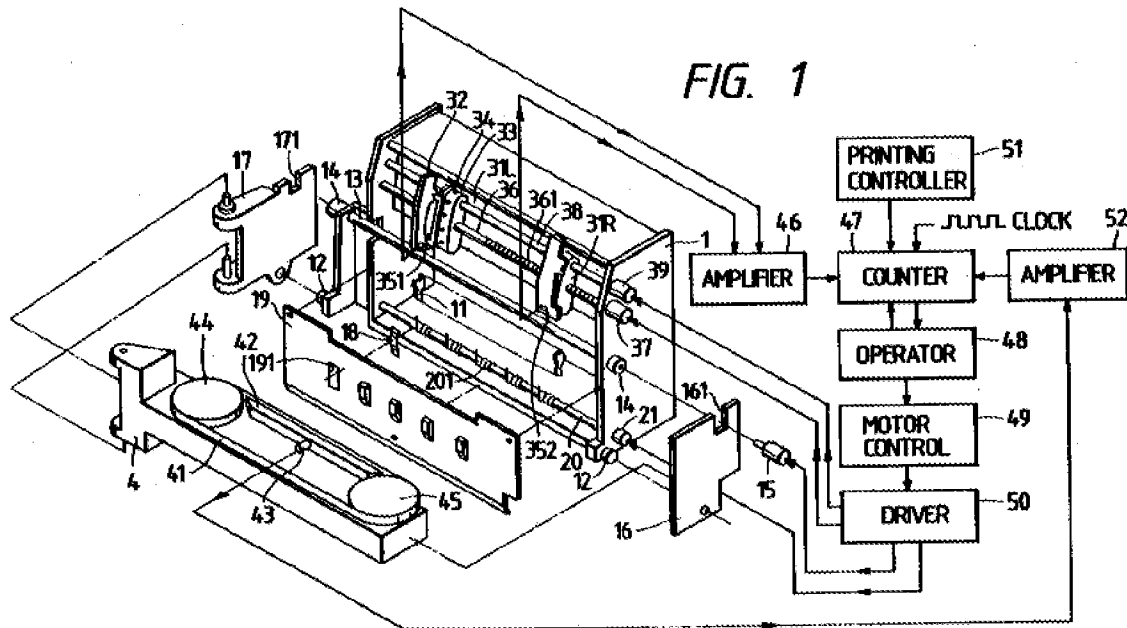
【図1】



Nishimura, on the other hand, and similar to Chinzei, teaches a continuous paper feeding apparatus (Fig. 1, reproduced below) for feeding a perforated continuous paper sheet to an image forming device, comprising a paper supply configured to supply the continuous paper sheet; and a tractor 33 provided at a location upstream of said image forming device to feed the continuous paper sheet supplied from said paper supply device while engaging perforations of the continuous paper sheet; and **a braking device** (similar to Chinzei's braking device and comprising a sheet guide 19, a clammer 18 movable

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by a activation device/motor 21 and push springs 201) located between said paper supply device and said tractor 33 and configured to apply a braking force to the continuous paper sheet. Nishimura further teaches **a braking force setting device 50** (driver for the motor 21) configured to variably set the braking force to automatically adjust tension of the paper to a desired value to prevent possible paper jams or breakage of the perforations (Col. 1 lines 17-24; col. 1 lines 46-24; col. 3 line 64- col. 4 line 2; col. 5 lines 6-32). The desired tension is determined from the paper thickness (Abstract).



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Chinzei's feed roller comprise a pair of rollers, in order to feed the paper, in view of Miyakoshi; and the braking force setting device configured to variably set the braking force, based at least on the paper thickness or as an alternative design, in view of Nishimura, in order to

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automatically adjust tension of the paper to a desired value to prevent possible paper jam or breakage of the perforations.

Claims 4, 11 and 23:

Chinzei in view of Miyakoshi and Nishimura teaches a printer according to claims 1, 8 and 17, wherein said braking force setting device sets the braking force according to a type of the continuous paper sheet (Nishimura's abstract: "the desired tension is determined from paper thickness [type]").

Claim 15:

Chinzei in view of Miyakoshi and Nishimura teaches a printer according to claim 8, further comprising a fixing device 5 (Miyakoshi's fig. 1) configured to fix the image onto the continuous paper sheet at a location downstream of said printing device 3.

Claim 16:

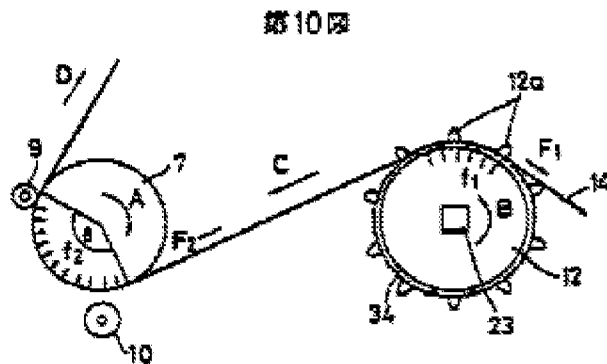
Chinzei in view of Miyakoshi and Nishimura teaches a printer according to claim 15, wherein the fixing device 5 (Miyakoshi's fig. 1) applying tension to the continuous paper sheet (Miyakoshi's abstract "the recording paper 1 is carried in a pulled state between the fixing device 5 and the scuff roller 6." Evidently, the fixing device 5 together with the scuff roller 6 applies tension to the recording paper).

Claims 5, 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi and Nishimura, as applied to claims 1, 8 and 17 above, and further in view of Ara Yoji (JP 61094955 A).

Chinzei in view of Miyakoshi and Nishimura teaches a continuous paper feeding apparatus according to claims 1, 8 and 17.

Chinzei in view of Miyakoshi and Nishimura doesn't teach setting the braking force according to conditions of installation environment.

Ara Yoji, as discussed in previous Office actions, teaches a perforated continuous paper feed device equipped with a tractor 12 which automatically adjusts to create a proper braking force F_1 according to conditions of an environment in which the device is installed. As such, the paper is prevented from being fed exceedingly to platen 7 by frictional force F_2 . In other words, high temperature, high humidity, etc., may cause the paper to be fed exceedingly by frictional force F_2 , thus the counter braking force F_1 should be adjusted accordingly to prevent any excessive feeding (See Abstract).



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Chinzei's braking force adjusted according

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to conditions of installation environment, so that the paper is prevented from being fed exceedingly by the frictional force of the pair of feed rollers, in view of Ara Yoji.

Claims 6, 13, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi and Nishimura, as applied to claims 1, 8 and 17 above, and further in view of Wassermann (US 3,259,288).

Claims 6, 13 and 25:

Chinzei in view of Miyakoshi and Nishimura teaches a continuous paper feeding apparatus according to claims 1, 8 and 17.

Chinzei in view of Miyakoshi and Nishimura doesn't teach that the braking device includes an evacuating device to apply a suction force to the printing paper sheet.

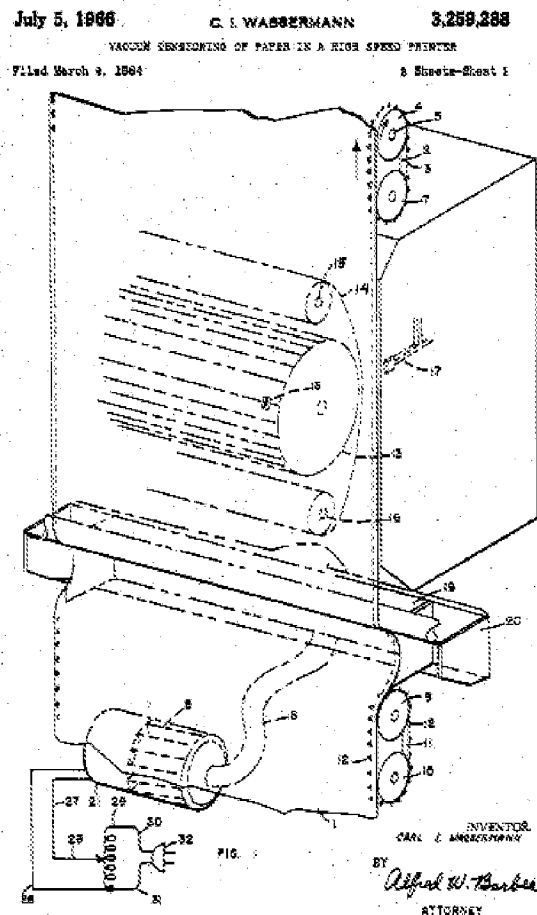
Wassermann, as discussed in previous Office actions, teaches an evacuation device 19 disposed in a feeding path of a continuous paper which is fed by a tractor to an image forming device, so that the tensioning of the paper can be easily and accurately controlled, tearing of perforation holes can be prevented, the operation of the printer is greatly simplified, starting and stopping the paper is smoother (Col. 1 lines 42-70).

It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use Wassermann's evacuation device in place of Chinzei/Nishimura's braking device to apply a suction force to the printing paper

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sheet, so that the tensioning of the paper can be easily and accurately controlled, tearing of perforation holes can be prevented, the operation of the printing apparatus is greatly simplified, as well as to smooth out the starting and stopping of the paper when a user starts and stops the operation of the apparatus.

Also in light of Wassermann's teaching, it would have been obvious to one of ordinary skill in the art to use Wassermann's evacuation device (which variably sets the braking force) as a paper brake anywhere in a continuous paper feeding device with a tractor.



Claim 27:

Chinzei in view of Miyakoshi and Nishimura teaches a continuous paper feeding apparatus according to claim 1.

Chinzei in view of Miyakoshi and Nishimura is silent about the braking force setting device sets the braking force based on a user-input submitted to the paper feeding apparatus.

Wassermann, as discussed in the Office action of 9/29/2008, teaches a continuous paper feeding device with an evacuation device 19 to apply a suction force to a continuous paper sheet, wherein the braking force setting device setting the braking force based on a user-input submitted to the paper feeding apparatus. Namely, a user submits an input by adjusting end plates 22 and 23 (Fig. 2, reproduced above), thus a paper width is specified, and the vacuum chamber 19 is automatically adjusted to the corresponding width, and so is the braking force (Col. 2 line 57 – col. 3 line 2).

As discussed in above in claims 6, 13 and 25, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to use Wassermann's evacuation device in Chinzei/Miyakoshi/Nishimura's apparatus. As a result, the braking force setting device would set the braking force based on a user-input submitted to the paper feeding apparatus.

Claim 28:

Chinzei as modified teaches a continuous paper feeding apparatus according to claim 27, wherein the user-input includes an indication of properties (e.g. width) of the continuous paper sheet.

Claims 1, 4, 8, 11, 15-20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi and Matsunaga et al. (JP 58211480 A).

Chinzei in view of Miyakoshi, as discussed above, teaches all that is claimed, including a braking device (having a solenoid 56 to change the pressure exerted on the paper) configured to apply a braking force to the continuous paper sheet and a braking force setting device configured to set the braking force to prevent skewing of the paper (Chinzai's paragraph 0015: "by changing back load...a skew of the paper is controlled").

Chinzei in view of Miyakoshi, as discussed in claim 1 above, is silent about that the braking force setting device configured to variably set the braking force.

Matsunaga, similar to Chinzei, teaches a continuous paper feeding apparatus comprising a braking device (having a solenoid L to change the pressure exerted on the paper) configured to apply a braking force to the continuous paper sheet and a braking force setting device configured to set the braking force. Nishimura further teaches that the braking force setting device is configured to variably set the braking force in accordance with thickness of the

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paper, thus preventing deformation of perforations (feed holes) and staggering (skewing) of the paper (Matsunaga's abstract).

It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Chinzei's braking force setting device configured to variably set the braking force, in accordance with thickness of the paper or as an alternative design, in view of Matsunaga, in order to prevent deformation of perforations and staggering (skewing) of the paper.

Claims 5, 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi and Matsunaga, as applied to claims 1, 8 and 17 above, and further in view of Ara Yoji.

Reasons for the rejections are similar to the reasons discussed in claims 5, 12 and 24 above.

Claims 6, 13, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinzei in view of Miyakoshi and Matsunaga, as applied to claims 1, 8 and 17 above, and further in view of Wassermann (US 3,259,288).

Reasons for the rejections are similar to the reasons discussed in claims 6, 13, 25, 27 and 28 above.

Response to Arguments

Applicant's arguments, see the amendment, filed on 1/21/2009, with respect to the rejection(s) of all pending claim(s) have been fully considered and

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are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nishimura (US 5,018,888) and/or Matsunaga et al. (JP 58211480 A).

It was noted with respect that on page 7 of the amendment, Applicants state that the braking force setting device of the present invention would variably set the braking force according to printing conditions or paper thickness. Nishimura and/or Matsunaga teach the same, as discussed claims 1 and 4 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to 'Wyn' Q. HA whose telephone number is (571)272-2863. The examiner can normally be reached on Monday - Friday, from 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NQH

/Jill E. Culler/
Primary Examiner, Art Unit 2854